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# It's not vegetarian, it's meat-free! Meat eaters, meat reducers and vegetarians and the case of Quorn in the UK

Chrysostomos Apostolidis <sup>a,\*</sup>, Fraser McLeay<sup>a</sup>

<sup>a</sup> Newcastle Business School, Northumbria University, City Campus East 1, Newcastle upon Tyne, NE1 8ST, UK

\* Corresponding author.

Room 209, Newcastle Business School, Northumbria University, City Campus East 1, Newcastle upon Tyne, NE1 8ST, UK

Tel.: +44 0191 227 3484 E-mail address: [c.apostolidis@northumbria.ac.uk](mailto:c.apostolidis@northumbria.ac.uk)

## About the authors

**Dr Chrysostomos Apostolidis** is a Lecturer of Marketing in Newcastle Business School, Newcastle upon Tyne, which he joined in 2012. He specialises in social marketing, ethical marketing and sustainable consumer behaviour and has published several articles and conference papers in this area. His main research interest is in the impact of marketing on sustainable and ethical consumer behaviour. This article is part of a larger project investigating strategies to encourage sustainable meat consumption through meat substitution.

**Fraser McLeay** is Professor of Strategic Marketing Management and Head of Corporate and Executive Development at Newcastle Business School, Northumbria University. He has worked globally in the food industry and academia. As an academic Fraser has received funding from prestigious research councils such as the ESRC, ESRC, and AHRC, as well as won numerous prizes for his research and contributions to practice. Fraser has published over 150 journal articles, book chapters, refereed conference papers or commissioned reports. His current research interests focus on brand communities, social media, sustainable marketing and high growth small firms.

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## **It's not vegetarian, it's meat-free! Meat eaters, meat reducers and vegetarians and the case of Quorn in the UK**

### **Abstract**

**Purpose:** During the past decade, environmental, health, economic and ethical concerns relating to increasing levels of meat consumption have attracted the interest of governments, media and the public. Existing literature has highlighted the impact of personal values and the perceived benefits that meat substitutes bring to consumer food choices and sustainable consumption. Food policy makers often put faith on food manufacturers to identify appropriate interventions aimed at changing consumer behaviour and encouraging more sustainable diets. The purpose of this paper is to explore how values and benefits influence consumer preferences for meat substitute products and consumer perceptions on how a meat substitute manufacturer can motivate people to replace meat.

**Methodology:** Quorn, the largest manufacturer of meat substitutes in the UK, is used as a case study to explore consumer perceptions of meat substitutes and related behaviour. Recently, Quorn has gone to great extent to improve the image of substitute products and employed various strategies to encourage substitution of meat with meat-free alternatives on the basis of health and sustainability. Using the means-end chain approach and Schwarz's (1992) theory of basic values, the research links the Quorn specific attributes to the needs and values of UK consumers. 32 vegetarians, meat reducers and meat eaters were recruited and participated in 4 group interview sessions that followed a 'hard' laddering approach, to measure the means-end chains and provide insights into consumer motivation when purchasing Quorn products. The results were coded using content analysis and the themes were aggregated and presented in a set of Hierarchical Value Maps.

**Findings:** Even though Quorn products are perceived as more expensive, most consumers associate them with health and sustainability related benefits driven by values of security, benevolence and universalism. Furthermore hedonism and conformity are identified as important values, driving purchases of meat substitutes. A pleasant taste, easiness to replace meat products and a fit with the current lifestyle are important.

**Contribution:** Our results show that differences exist between groups of consumers with respect to their meat consumption patterns, and therefore different interventions may be necessary to encourage meat substitution. The effectiveness of advertising, celebrity endorsement and digital media is discussed as having a positive impact on demand for meat substitutes and therefore could be parts of an intervention agenda aimed at encouraging more sustainable patterns of meat consumption.

**Keywords:** Meat substitutes, Sustainable consumption, Means-end chains, Values, Vegetarianism, Meat reduction

## 1. Introduction

In recent years the increasing awareness and understanding of the social, environmental and ethical costs of meat production has led to the development and production of meat substitutes (Elzerman, Hoek, van Boekel & Luning, 2015; Vanhonacker, Van Loo, Gellynck & Verbeke, 2013; Hoek, Luning, Weijzen, Engels, Kok & de Graaf, 2011). Meat products have been associated with animal welfare issues as well as inefficient conversion rates of animal feed into meat protein, high carbon and water footprints, deforestation and biodiversity loss (Tubiello, Salvatore, Córdor Golec, Ferrara, Rossi et al., 2014; Department for Environment, Food and Rural Affairs, 2013; Foresight, 2011). In addition to its environmental impact, researchers have linked high meat consumption with cardiovascular diseases, type 2 diabetes and even some forms of cancer (International Agency for Research on Cancer, 2015; Olmedilla-Alonso, Jiménez-Colmenero & Sánchez-Muniz, 2013; Troy & Kerry, 2010). Meat substitutes (also called ‘meat alternatives’ or ‘meat-free products’) are products generally based on plant proteins (such as soy, pulses, rice and mycoprotein), which have been developed to replace meat in the diet (Schösler, de Boer & Boersema, 2012). In addition to animal welfare benefits, several studies have indicated that some meat substitutes are more environmentally sustainable than meat (Elzerman et al., 2015; Nijdam, Rood & Westhoek, 2012; Finnigan, 2010) and can also contribute to a reduction in the unhealthy levels of meat consumption in Western diets by providing healthier alternatives to meat (Post, 2012; Department of Health, 2011).

Generally, consumer attitudes and behaviour towards food products are determined by environmental factors (such as situation, information and marketing) as well as by individual factors (such as motivations, values and habits) and food-specific properties, as well as attributes (Font i Furnols & Guerrero, 2014; Köster, 2009; Bonne & Verbeke, 2006). As the

meat sector is a well-established and competitive market, if meat substitute products are to become more attractive, it is important to explore consumers' preferences, motivations and values for meat substitutes, as well as how food manufacturers, marketers and policy makers can effectively encourage meat substitution.

Despite the increasing popularity of meat substitutes, a persisting issue is how recent consumer awareness of health, animal welfare and sustainability, as well as food business strategies and policies, have shaped the way consumers perceive meat substitutes and their benefits. In this paper, a case study approach is used to investigate vegetarian, meat reducer and meat eating consumers' attitudes and motivations with regards to meat substitutes and their attributes. Besides the personal factors influencing the demand for these products, the importance of several market factors will be examined. Exploring consumer attitudes for meat substitutes will be interesting from both an academic and a practitioner point of view. The results may inform further research on meat substitutes and sustainable diets as well as assist with the development of marketing strategies and policies that encourage meat substitution and more sustainable meat consumption patterns.

## **2. Literature review**

During the past two decades, global per capita meat production has increased above healthy levels, critically so in Western countries (Wellesley, Happer & Froggatt, 2015; Abbade, 2015). Additionally, due to the continuously growing world population and per capita income, the demand for animal products is projected to increase by 70% by 2050 (de Boer, Schösler & Aiking, 2014). As a result of that increase, the social and environmental burden of meat production is expected to rise (de Boer, Schösler & Aiking, 2014; Hallström, Rööös & Börjesson, 2014; Edjabou & Smed, 2013). Production and consumption of meat substitutes could be socially and environmentally more sustainable (de Boer, Schösler & Aiking, 2014;

Vanhonacher et al., 2013) as meat substitute products are considered to have a lower environmental impact and can also help reduce unhealthy levels of meat consumption (Köster, 2009).

The oldest food product classified as a meat substitute is tofu, a soy-based product that has been produced in China for around 2000 years (Elzerman, van Boekel & Luning, 2013). In the UK, tofu, as well as a number of other plant-based meat substitutes, was introduced in the market in the 1960s, and aimed at vegetarian consumers (Elzerman, van Boekel & Luning, 2013; Sadler, 2004). In the past decade a large number of new food product launches have targeted the vegetarian market, which represents one of the most buoyant food categories (Mintel, 2010).

Although meat substitutes remain a small food category compared to the meat industry, for several years, they have been one of the fastest-growing categories (Euromonitor, 2015). Recent consumer surveys indicate that meat substitutes are purchased on a regular basis by around 30% of the UK population, which suggests that they appeal to a much wider audience than only vegetarians (Euromonitor, 2015). Further evidencing the current interest in meat substitutes, in 2013 over 57% of UK consumers had tried meat substitutes at least once, with Quorn being the most popular product in this category (Mintel, 2013). The recorded increase in meat substitute sales is also fuelled by the greater availability and wider product variety in the meat substitute market (Euromonitor, 2015). This is due to food companies seeking to cater to the growing number of UK consumers who are either purposefully reducing their meat consumption (meat reducers) or ceasing to eat meat altogether (vegetarians) due to growing environmental, animal welfare and health concerns surrounding meat (Euromonitor, 2015). Additionally, there is an increasing awareness and interest of regular meat eaters regarding the health related benefits of meat substitutes in their diets (Mintel, 2016). Due to

the rise in the number of consumers embracing meat-free and meat-reduced diets and the increased interest in alternatives for meat products, meat substitutes are expected to continue their strong performance, with volume sales set to grow further by 2020 (Euromonitor, 2015). However, research examining the attitudes and motivations behind the purchasing of meat substitute products has been limited.

### **3. Case selection**

In the UK, a number of companies offer sustainable meat substitutes in various forms, such as mince, sausages, burgers and nuggets, however Quorn remains the leading brand in the market (Mintel, 2013). Quorn has recorded a robust performance during 2014 and 2015 as major retailers increased the amount of shelf space given to meat substitutes (Euromonitor, 2015). Additionally, Quorn benefitted from its status as the most widely-recognised meat substitute brand, supported by its high-profile advertising campaigns (such as the one featuring the British athlete and Olympic gold medallist Mo Farah) and its wide range of products (Euromonitor, 2015).

Quorn products were developed in the early 1980s and became increasingly popular in the UK market, and later in the rest of Europe and the USA (Sadler, 2004). Their popularity is attributed in part to Quorn's texture which mimics certain types of meat, and the product being marketed as a meat alternative, not only for vegetarians but meat eaters as well (Elzerman et al., 2013; Mintel, 2013; McIlveen, Abraham & Armstrong, 1999). Further evidencing Quorn's popularity and success in the market, several food manufacturers and leading grocery retailers in the UK are reportedly increasing their efforts to offer products that are similar to Quorn (Euromonitor, 2015). This intention to replicate Quorn's success in the market by developing similar products may result in a higher demand for meat substitutes, more sustainable meat consumption patterns and the development of a more

mainstream image for meat substitute products. Despite the popularity of and interest in Quorn products, limited research exists around the market and individual factors, such as consumers' attitudes and motivations to purchase Quorn, that have contributed to the success of Quorn in the meat substitute market. Therefore, this research will provide useful insights, from an academic and a business perspective. The results will inform academic researchers and practitioners on the attitudes and underlying values motivating meat substitute purchases, which will enable the development of new products and successful marketing strategies and food policies. Additionally, due to the limited extant research into the three different consumer groups; vegetarians, meat reducers and meat eaters, it will be interesting to explore the differences *between* these three groups, particularly in the case of a meat substitute product (Quorn) which is popular in all of these categories.

#### **4. Consumer groups: meat eaters, vegetarians and meat reducers**

Researchers argue that the number of consumers following a vegetarian diet has increased in many Western countries and therefore it is likely that their influence on the food sector and industries will continue to grow (Janssen et al., 2016). However, studies on the frequency of meat consumption show that, apart from vegetarians (people avoiding meat) and meat-eaters, a growing segment of consumers are trying to reduce meat in their diets, for example by not eating meat at least one day per week (Dagevos & Voordouw, 2013). The existence of this group of meat reducers (or 'flexitarians') suggests that the dominance of meat products in the food market may not be as strong today as traditionally considered and this may present the opportunity for new products to replace part of meat in consumers diets (Dagevos & Voordouw, 2013). Additionally, meat reducers may play a key role in the efforts to achieve more sustainable diets (De Bakker & Dagevos, 2012). Despite the increasing importance of meat reduction, to the best of our knowledge, meat reducers have received limited attention in



academic research (De Bakker & Dagevos, 2012). Different groups of consumers such as meat eaters, meat reducers and vegetarians, may be very heterogeneous in terms of their attitudes and motivations when purchasing food products (De Backer & Hudders, 2015; Ponzio, Mazzarini, Gasperi, Bottoni & Vallorani, 2015; De Bakker and Dagevos, 2012). Therefore, the development of strategies and policies that will take into consideration the different attitudes, motives and eating habits of such groups of consumers could be an effective approach to achieve more sustainable diets.

Several authors support that animal welfare and health- and environment-related motives are the main drivers of vegetarianism and lower meat consumption in the Western World nowadays (e.g. Janssen et al., 2016; Ponzio et al., 2015; Dyett, Sabaté, Haddad, Rajaram & Shavlik, 2013). This is supported by studies which suggest that universalistic values related to care for nature and the welfare of animals are commonly correlated with vegetarianism and low levels of meat consumption (de Boer, Schösler, Boersema, 2013). Additional motives for choosing a less meat-based diet include ethical, cultural, taste, social and religious reasons (De Backer & Hudders, 2015; Radnitz, Beezhold & Di Matteo, 2015; Ruby & Heine, 2012).

In a recent research in Belgium, De Backer and Hudders (2015) found that vegetarians are mainly motivated by ethical and taste related concerns, while meat reducers are influenced by health related motives, but are less concerned about animal and human welfare. This is partly supported by earlier studies that have argued that meat reducers are mainly driven by personal health rather than ethical concerns (Forestell, Spaeth & Kane, 2012; Fox and Ward, 2008; Lea & Worsley, 2003). On the other hand, other authors report that consumers may be reducing their meat consumption because of environmental and ethical concerns (De Backer and Hudders, 2015; Vanhonacker et al., 2013).

Generally, ethical concerns that influence meat consumption may include the killing of animals, animal welfare and animals suffering on farms (Radnitz et al., 2015; Dyett et al., 2013) while environmental concerns are associated with a relatively high carbon footprint, water usage and resource scarcity (De Backer & Hudders, 2015; Fiala, 2008). Health-related motives include the view that a less meat-based (or meat-free) diet is better in terms of preventing illnesses, such as cardiovascular diseases and diabetes, and is beneficial to personal fitness (Radnitz et al., 2015; Rothgerber, 2013). Compared to ethical and environmental motives, health-related motives are considered to be driven to a greater extent, by individual self-interest rather than altruistic or moral values (Janssen et al., 2016).

Another factor reportedly influencing meat consumption patterns are taste preferences, (i.e. how much individuals like or dislike the taste of meat and meat substitutes). The love for the taste of meat products has been highlighted in earlier studies as one of the most significant factors preventing consumers from reducing meat in their diets (Lea & Worsley, 2003). Additionally, missing the taste of meat has also been reported as a common reason for vegetarians switching back to a meat eating diet (Barr & Chapman, 2002). Janssen et al. (2016) found that the more one dislikes the taste of meat and likes the taste of meat substitutes, the more likely they are to avoid meat. Consumer preferences and attitudes regarding the taste and other characteristics of meat and meat substitutes will be discussed in the following section.

## **5. Attitudes towards meat substitutes**

Several studies have recently been published in relation to the sustainability benefits of meat reduction, some of which suggest replacing of meat with more sustainable meat substitute products is a positive step towards less meat-based diets (e.g. Verbeke, 2015; Elzerman et al., 2013; Hoek et al., 2013; Vanhonacker et al., 2013; De Bakker & Dagevos, 2012; Ruby, 2012;

Hoek et al., 2011). This academic interest in meat reduction exemplifies the scientific acknowledgment of the additional stress on sustainability (social, environmental and economic) incurred by current levels of meat consumption, especially in Western countries. It also underlines the importance of consumer research on products aiming at encouraging meat reduction, since the majority of consumers need to adopt more sustainable food choices for a substantial impact to be achieved. From this perspective, meat substitutes should be attractive not only to vegetarian consumers but also to current meat consumers (Vanhonacker et al., 2013; Hoek et al., 2011).

Although generally there has been limited academic research focussing on meat substitutes, a small number of studies have explored consumer attitudes and acceptance of such products in different markets. For example, food neophobia, convenience and unfamiliarity with meat substitutes may have an impact upon demand for meat substitutes in the Dutch market (e.g. Schösler, de Boer & Boersema, 2012; Hoek et al., 2011). This is in line with the findings of the studies emphasising the taste of meat as a major barrier in reducing meat consumption (e.g. Janssen et al., 2016; Lea and Worsley, 2003; Barr & Chapman, 2002). Overcoming this taste barrier may be challenging since not only are meat substitutes relatively new and expensive (compared to some forms of meat), but they are also often perceived to be of lower quality, in particular with respect to sensory properties, such as taste and texture (Vanhonacker et al., 2013; Elzerman et al., 2013; Hoek et al., 2011). Nevertheless, Hoek et al. (2011) highlight the difference between heavy users of meat substitutes (e.g. vegetarians) and light users (e.g. meat reducers or meat eaters that occasionally use meat substitutes). Although they found that heavy users prefer meat substitutes that are dissimilar to meat for sensory properties such as meat-like texture, taste, smell and appearance (as they have reportedly developed a strong dislike of the sensory properties of meat), those who rarely use meat substitutes prefer a product with sensory properties similar to meat (Hoek et al., 2011).

Elzerman et al. (2013) suggest that a meat-like taste and texture is a positive attribute for meat substitute products. However, they emphasise the importance of meal context, as they found that some dishes are more appropriate for the use of meat substitutes (e.g. pasta and rice dishes) than others (e.g. pizza). In addition to food neophobia, meal context and lower perceived sensory quality (e.g. taste and texture), researchers suggest that consumers may be reluctant to accept meat substitutes due to other characteristics such as convenience, freshness and luxury, a lack of information on the packaging and higher prices (Elzerman et al., 2013; Vanhonacker et al., 2013; Hoek et al., 2011).

On the other hand, several studies have reported that consumers have positive attitudes towards certain meat substitute characteristics, such as attributes related to health, weight loss and animal welfare, which may increase demand (e.g. Elzerman et al., 2013; De Bakker & Dagevos, 2012). The list of positive attributes is also related to concerns over food safety, fair and ethical trade, animal slaughter and the environmental impact of meat products (Smart, 2004). Nevertheless, the impact that these factors will have on the demand for meat substitutes and future meat reduction is questionable, as only a small number of consumers (mainly vegetarians) have shown preference for these attributes of meat substitutes (Hoek et al., 2011). Therefore in this study, we aim to explore the individual motives and underlying values that lead to different groups of consumers to purchase a specific meat substitute product.

## **6. The means-end chain analysis approach**

Due to the scarcity of research exploring the individual factors which influence consumption of meat substitutes, a qualitative approach was adopted for this study. Specifically, means-end chain (MEC) analysis was employed, which is a proven method in research on food consumption (Arsil et al., 2014; Bitzios, Fraser & Haddock-Flaser, 2011; de Ferran &

Grunert, 2007). MEC analysis is based upon the assumption that the utility of a product is not only a direct result of its attributes, but it also derives from the functional and psychological consequences or benefits it delivers (Bitzios, Fraser & Haddock-Flaser, 2011). According to de Ferran and Grunert (2007), MEC analysis is based on the *Psychology of Personal Constructs* (developed by Kelly in 1955) which suggests that people make sense of the world by hierarchically categorising its elements. Gutman (1982) introduced the concept into consumer research, defining these hierarchical levels as **attributes**, **consequences** and **values**, suggesting that values and consequences guide consumer preferences for particular product attributes and the links between the three levels determine consumer purchases. Therefore, in order to better understand consumer motivations to purchase a specific product, preferences for specific product attributes and the associated benefits, as well as underlying values must be examined.

## 7. The impact of human values on food choices

As values refer to relatively abstract motivational goals (Schwartz, 1992), when utilising a MEC approach it is necessary to decide how the values concept will be explored. Several theories have been developed in order to explain how values shape the motivational processes and corresponding attitudes. In his seminal work on values, Rokeach (1973) defined values as the enduring beliefs which guide and motivate behaviour by identifying the modes of conduct and states of existence that are personally or socially preferable. Values are often identified as important in food choices as they guide food consumption behaviour (e.g. Verain, Bartels, Dagevos, Sijtsma, Onwezen & Antonides, 2012; Lusk & Briggeman, 2009; de Boer, Hoogland & Boersema, 2007). Schwartz (1992) suggests that values can be categorised into ten main types: universalism, benevolence, conformity, tradition, security, power,

achievement, hedonism, stimulation and self-direction. A brief description of each of these values is provided in Table 1.

**Table 1 Values and descriptions - Adapted from Schwartz (2012)**

<b>Value</b>	<b>Description</b>	<b>Defining goal</b>
Self-Direction	An individual's desire for autonomy and independence.	Independent thought and action, choosing, creating, exploring.
Stimulation	Variety and stimulus in order to maintain a positive level of activation	Excitement, novelty, and challenge in life.
Hedonism	Is derived from organismic needs and the pleasure associated with satisfying them.	Pleasure or sensuous gratification for oneself.
Achievement	Emphasises obtaining social approval by prevailing cultural standards.	Personal success through demonstrating competence.
Power	Are related to needs for dominance and control such as authority, wealth and social power.	Social status and prestige, control or dominance
Security	Serve individual (e.g., clean, healthy) and wider group interests (e.g., national or family security, social order)	Safety, harmony, and stability of society, of relationships, and of self.
Conformity	The values that prevent individual inclination that might disrupt smooth interaction with people with whom one frequently interacts	Restraint of actions and impulses likely to upset or harm others and violate social norms.
Tradition	Entails subordination to abstract objects—religious and cultural customs and ideas.	Respect, commitment, and acceptance of the customs/ideas provided by culture or religion.
Benevolence	Are derived from the basic requirement for smooth relations within the family and other primary groups.	Preserving and enhancing the welfare of those with whom one is in frequent personal contact.
Universalism	Are related to concerns regarding the welfare of those in the larger society and world and for nature.	Understanding, appreciation, tolerance, and protection of welfare, for people and nature.

In the current study, Schwarz's (1992) value framework will be adopted, as it has been employed in previous food marketing research to provide insights into sustainable food consumption (e.g. de Boer, Hoogland & Boersema, 2007). Earlier studies found that most of these basic human values are, to a certain extent, related to food choice motives (e.g. Lusk & Briggeman, 2009; de Boer, Hoogland & Boersema, 2007). According to Lusk and Briggeman

(2009) for example, individuals for whom hedonism is an important value may care greatly about taste and visual appeal, while those concerned about security will most likely avoid food products that may cause health and/or financial harm. Alternatively, those who desire stimulation will appreciate new and unconventional food products. Universalism and benevolence values are often related to vegetarianism (de Boer, Hoogland & Boersema, 2007), while universalism has also been associated with more environmentally sustainable food choices (Hoogland, de Boer & Boersema, 2007). Moreover, individuals who hold strong universalist and benevolence values tend to prefer high-quality, healthy, natural food products and appear to care less about food prices (Worsley, Wang & Hunter, 2010; Brunsø, Scholderer & Grunert, 2004). Conversely, lower prices are important to those who hold traditional values, which include conservation and economy (Worsley, Wang & Hunter, 2010; Brunsø, Scholderer & Grunert, 2004). Finally, Botonaki and Mattas (2010) argue that food convenience is mainly related to the values that motivate consumers to act independently, try new experiences and enhance their personal interests (such as stimulation, hedonism and self-direction), but are in conflict with the values of conservation and self-transcendence (such as tradition, security and benevolence).

As there is extensive evidence in the literature regarding the impact of Schwartz's (1992) values on food choices, our study contributes to academic knowledge by examining the impact these values on the purchase of meat substitutes, their perceived consequences and the relationships associated with specific product attributes using a MEC approach.

## **8. Methodology**

In its empirical application, MEC is usually combined with a data collection method known as 'laddering' (e.g. Arsil et al., 2014; Bitzios, Fraser & Haddock-Fraser, 2011; de Ferran & Grunert, 2007; Grunert & Grunert, 1995). The laddering method is used to elicit consumers'

motivations by continuously probing for answers with an increasing level of abstraction, leading to the development of ladders, which are used to link product attributes to consequences to life values (de Ferran & Grunert, 2007; Grunert & Grunert, 1995). Therefore, the laddering method is suitable for investigating the way consumers link the attributes of a meat substitute to underlying consequences and values. The advantage of the laddering technique compared to other qualitative methods of research, is that it addresses more explicitly the connections between tangible product attributes and more abstract cognitive categories that motivate consumer behaviour (de Ferran & Grunert, 2007). Thus, laddering methods can provide valuable insights by prompting consumers to reflect upon their purchasing motives in everyday shopping situations and provide information on what motivates them to favour one product over another (Grunert & Grunert, 1995).

Different methods used to generate ladders are discussed in existing literature. ‘Soft’ laddering is the process in which the ladders are created based on the respondents’ natural flow of speech (Grunert & Grunert, 1995). ‘Hard’ laddering is a more structured approach in which the respondent is probed (or ‘forced’) to give answers in such a way that the sequence of their answers reflects increasing levels of abstraction (Grunert & Grunert, 1995). Although it is a more commonly used method, the usefulness of soft laddering has been questioned in the academic literature, due to the complexity of the results and the increase in cognitive processing, and therefore bias, on the part of the interviewer (Russell, Busson, Flight, Bryan, van Pabst & Cox, 2004). Thus attempting to make sense of respondents’ answers and relating them to the MEC may prove to be problematic for the interviewer, as respondents often deviate from the ladder they are creating, or jump back and forth between levels of abstraction. The more this occurs, the greater the interviewer’s influence on the interpretation of the results. On the contrary, scholars suggest that hard laddering is more valuable when attempting to explain complex phenomena in a concise and meaningful way (Russell et al.,



2004). Hard laddering minimises the unwanted effects of respondents deviating from the ladders and interviewer involvement, therefore increasing the objectivity of the results. Additionally, hard laddering allows the use of alternative data collection methods, such as focus groups, surveys or group interviews, rather than the more traditional, one-on-one interviews used in the soft laddering approach (Modesto Veludo-de-Oliveira, Akemi Ikeda & Cortez Campomar, 2006; Russell et al., 2004).

The current study adopted a hard laddering method using group interviews as part of a larger research project on meat substitutes. In contrast to focus groups where discussion takes place between participants, in group interviews the facilitator engages with respondents on an individual basis and the focus of the session is the responses of individuals to questions posed by the researcher around the research topic (Parker & Tritter, 2006; Boddy, 2005). This data collection method was considered to be aligned with the hard laddering approach adopted for this research.

Following recommendations of earlier studies (e.g. Tregear, Kuznesof & Moxey, 1998), it was considered important to provide an anchor (i.e. a specific brand) for the discussion as a foundation upon which respondents could create ladders. Given the diversity and increasing availability of meat substitutes in the market, it is necessary to reduce the potential lack of focus during the group discussions by using a well-known, UK brand as an anchor, providing better opportunities for discussion on the products from that brand. The brand selected was Quorn since (as aforementioned) it is the most popular, market-leading, meat substitute brand in the UK.

Since this study has an exploratory aim, theoretical sampling was employed as the sample size was determined by gathering enough evidence to explain the phenomenon rather than interviewing a pre-determined number of participants (Martin & Woodside, 2012). A total of

four sets of group interviews were conducted in the North East of England until theoretical saturation was reached (Corbin & Strauss, 2014). This means that no new attributes, benefits and values or linkages between them emerged from the group interviews indicating that the ladders are well developed.

Purposive sampling was used to identify interview participants and to ensure that certain types of individuals representing specific attributes were included. Participant profiles varied by age, gender and socio-economic categorisation and belonged to different meat consumption groups (Appendix 1). Additionally, in order to increase the validity of the findings all participants were familiar with and had purchased meat substitute products in the past 12 months. Consumers were split into three groups according to the frequency of meat consumption; which consisted of 11 vegetarians, 11 meat reducers and 10 meat eaters. Each session involved eight participants, lasted approximately two hours and was digitally recorded and transcribed verbatim. Each session followed the same protocol and was organised around the key steps of MEC, adopting a similar approach to earlier studies that used hard laddering to develop MEC for food products (e.g. Bitzios, Fraser & Haddock-Fraser, 2011). After a brief warm-up discussion, the questions focused on the construction of ladders, starting with the attributes that would most likely influence participants to purchase a Quorn product. Respondents were asked to imagine a food shopping scenario, as they are about to choose a meat substitute product and to think of the most important attributes that would persuade them to purchase a Quorn product over another meat substitute brand. Once respondents had answered this question the subsequent levels of the MEC were explored by asking participants why these specific attributes were important to them. Different levels of abstraction were encouraged by shifting the focus from the attributes and consequences/benefits to the underlying values motivating their behaviour. This step-by-step approach allowed respondents to develop ladders for each attribute they perceived as

important, leading to their value orientations through perceived consequences and benefits.

At the end of the discussion respondents were asked whether they had any further information to add and thanked for their participation.

Subsequently, content analysis and coding of the collected data was performed in accordance with the relevant literature (Krippendorff, 2004). Meaningful categories (themes) were developed for each key step of the ladder (i.e. attributes, consequences and values) based on phrases and key words. Where applicable, categories were defined in line with existing concepts from the literature (e.g. Schwartz, 1992). The coding procedure was an iterative process which included merging, dividing and redefining themes in line with the content analysis technique used. The resulting themes of the analysis were then summarised in a graphical representation of the identified MEC, known as a Hierarchical Value Map (HVM) (Reynolds & Gutman, 1988). The HVMs are based on the relative strength of the links in the ladders (i.e. how often respondents link an attribute to a consequence and then to a value) and not just on the number of respondents mentioning each concept. For example the link between ‘meaty taste and texture’ and ‘pleasant experience’ has been mentioned by 11 meat reducers but only 4 vegetarians, indicating a stronger link for the former rather than the latter.

## **9. Findings - Laddering and MEC results**

The main goal of this study was to explore the attributes, consequences and underlying personal values that drive consumer purchases of Quorn for three different groups of consumers (meat eaters, meat reducers and vegetarians). Our findings confirm and complement, but also contradict, the findings of earlier studies as discussed in the review of the literature.

In line with existing market research which highlights the increasing popularity of meat substitutes, not only for vegetarians but also consumers who still eat meat (Euromonitor, 2015), our research focussed on respondents who had purchased meat substitute products at least once in the preceding 12 months. The majority considered meat substitutes as everyday products, and have used different types of meat substitutes for specific cooking situations. For example, some respondents reported that they use meat-free burgers and sausages as a quick and easy meal solution, and meat-free mince and chicken-style pieces to prepare family meals and more complicated dishes. Only a very small number of respondents reported trying meat substitutes outside a home cooking situation in restaurants. Perceived higher costs (compared to meat), a lack of information and restricted availability were the main inhibitors that could limit the consumption of meat substitutes.

Further supporting market information regarding the popularity of Quorn (Mintel, 2013), some of the respondents purchased Quorn along with other meat substitutes, however the majority (particularly meat eaters) expressed that Quorn was the only meat substitute brand that they had purchased during the preceding 12 months. Respondents reportedly purchase meat substitutes most frequently from mainstream food retailers whilst purchases from specialty stores are less common. Their main source of information regarding meat substitute products and attributes were friends and family, the internet (social media and websites) and TV commercials, whilst, generally, the impact of meat-free campaigns (such as those by the ex-Beatle Sir Paul McCartney and celebrity chef Jamie Oliver) was more limited. Overall, most consumers have expressed a positive impact of Quorn advertising, celebrity endorsement, promotional offers and online presence in increasing awareness and encouraging product trial. Non-vegetarian respondents emphasised the importance of TV advertising and online media in changing their perceptions regarding meat substitute products from being vegetarian-only food to a meat-free alternative. This suggests the importance of

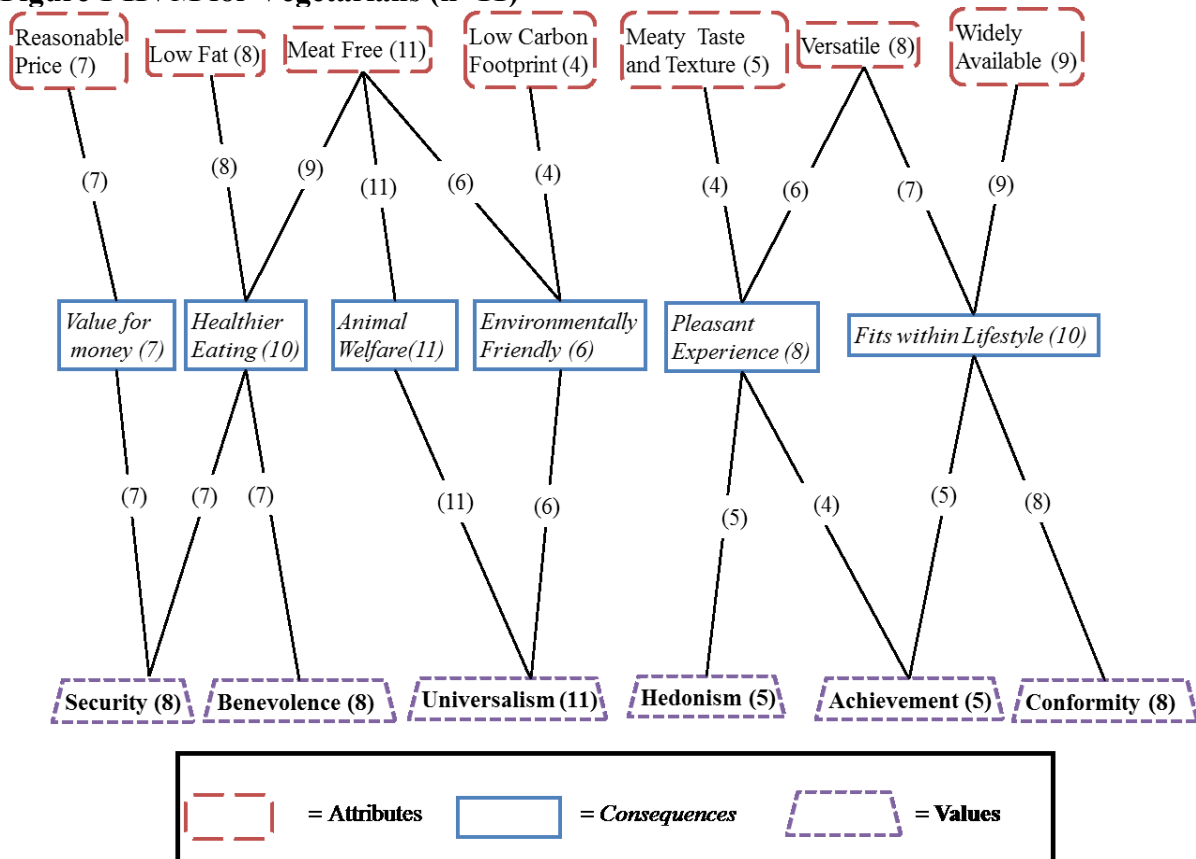
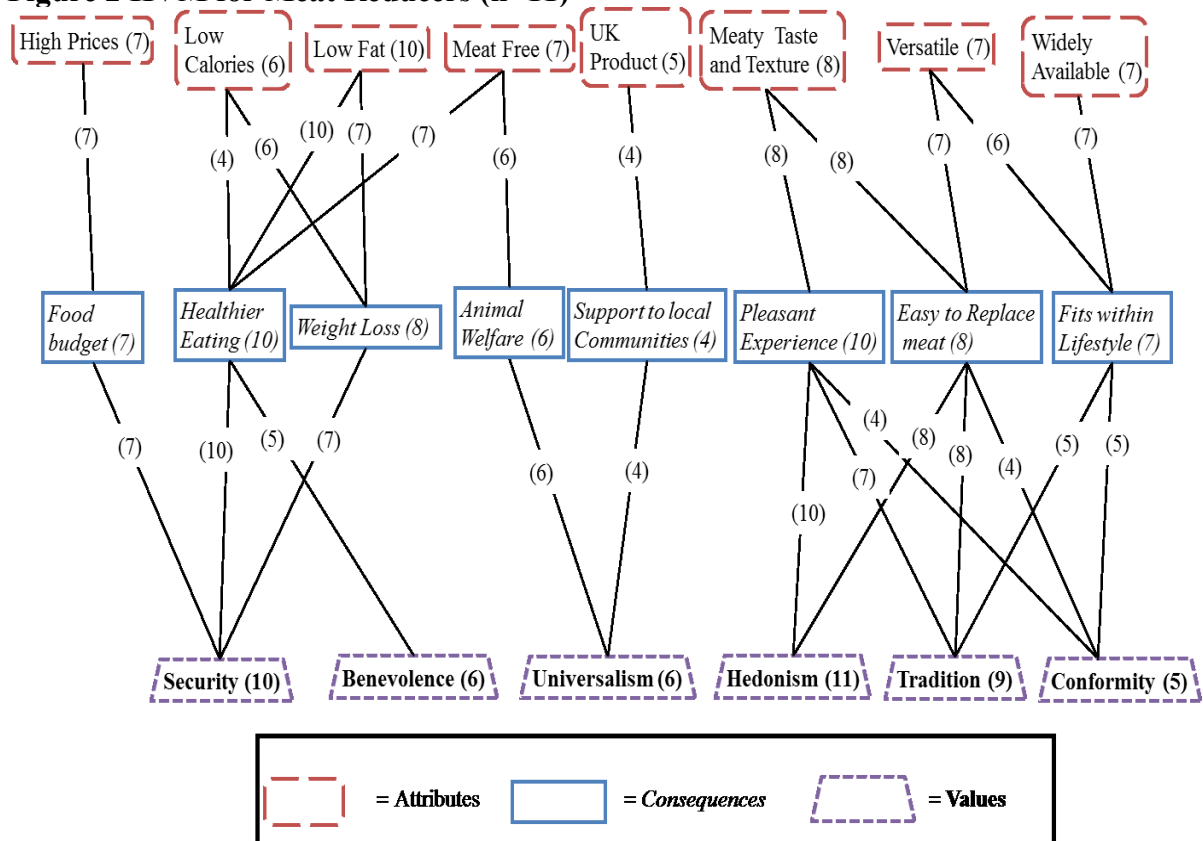
public media, online presence (such as websites, online videos and social media) and organised private promotional campaigns as information sources to encourage meat substitution. On the other hand, respondents cited a persistent lack of support from the government and large food retailers and indicated that much more could be done in terms of increasing awareness, providing information, educating consumers and increasing the availability of meat substitute products.

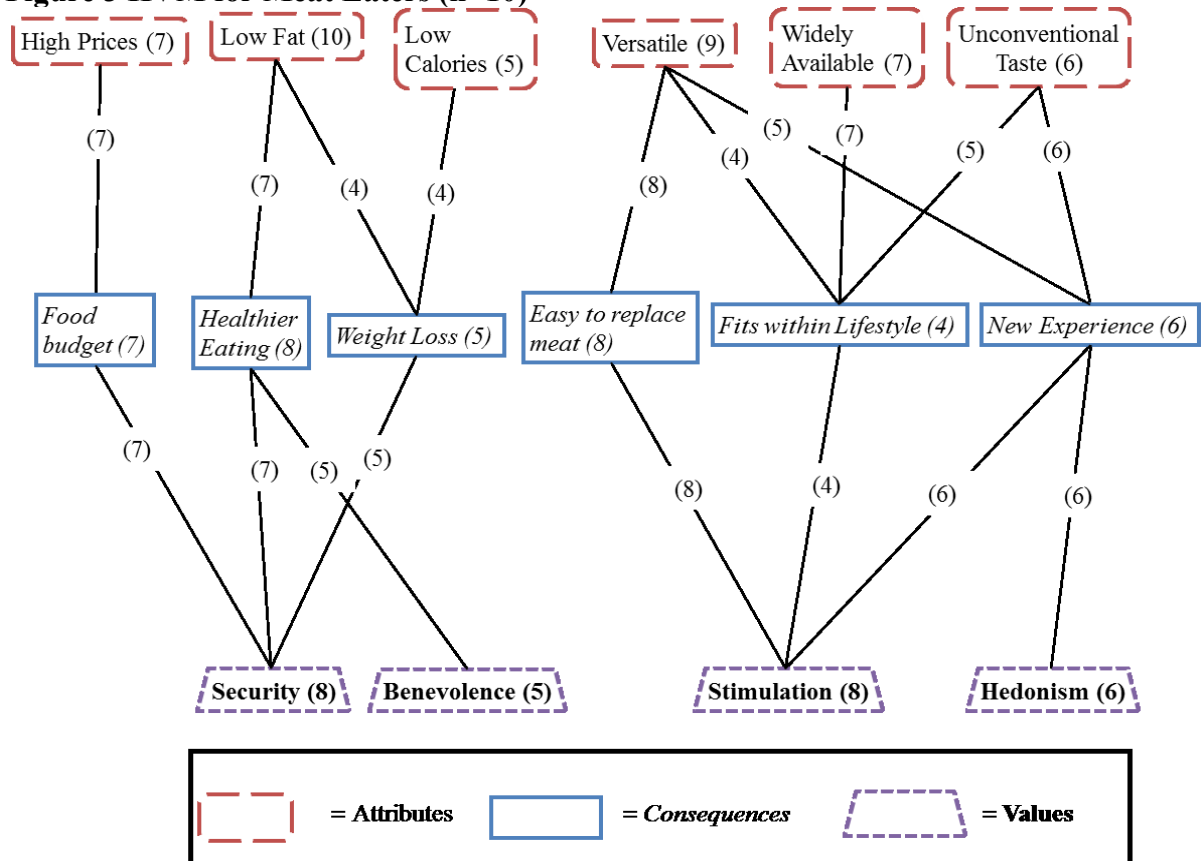
To assist the classification of the findings from the group interviews into attribute-, consequence- and value-related themes, a number of existing concepts available in the extant food marketing literature and Schwartz's values have been taken into consideration. On the basis of this information three implication matrixes were developed leading to the construction of three separate maps which represent the respondents' cognitive ladders (one for each group of consumers). In line with Grunert and Grunert's (1995) recommendations in terms of retaining relevant information and creating manageable maps, a cut-off point of three was chosen for all the maps. As a result, any link between the identified concepts is represented on the map only if at least three respondents made that connection. Following this process, the attributes, consequences and values elicited by the repeatedly asked questions "why do you buy this product?" and "why is this important to you?" were grouped. The maps of vegetarians, meat reducers and meat eaters are shown in Figures 1-3, including positive and negative ladders (i.e. attributes, consequences and values that would motivate towards or prevent respondents from purchasing Quorn). The number of respondents who discussed each attribute, consequence and value, or made a cognitive ladder between them, is illustrated next to each concept or link. More specifically, there were:

- 7 attributes, 6 consequences and 6 personal values identified for the vegetarian consumers,

- 8 attributes, 8 consequences and 6 personal values for the meat reducers and
- 6 attributes, 6 consequences and 4 value themes identified for the meat eaters.

***Insert Figures 1, 2 and 3 about here***

**Figure 1 HVM for Vegetarians (n=11)****Figure 2 HVM for Meat Reducers (n=11)**

**Figure 3 HVM for Meat Eaters (n=10)**



By comparing these maps it is possible to observe similarities and differences between the cognitive structures of the three groups. On the attribute level, the three maps clearly suggest that product attributes linked to health and wellbeing (such as ‘low fat’ and ‘low calories’) occupy a central position for the majority of respondents, as they were considered important (i.e. mentioned during the interview process as a relevant attribute) by individuals in all three groups. The probing process demonstrated that respondents also develop similar ladders linking consequences and values, to explain the relevance of these attributes. That is, the values of benevolence (i.e. preserving and enhancing the welfare of those with whom one is in frequent personal contact) and security (as a value representing the safety, harmony and stability of one’s self) are the two values linked to the health-related attributes and consequences and are important values associated with purchasing Quorn products.

For the majority of vegetarian consumers, the values of security and benevolence have been linked to healthier eating. However, meat eaters and meat reducers linked security to both healthier eating and the consequence of ‘weight loss’, as they consider that the low fat/low calorie nutritional combination of Quorn can assist consumers who are trying to lose weight. Corroborating findings of earlier studies (De Backer & Hudders, 2015; Elzerman et al., 2013; Vanhonacker et al., 2013; Hoek et al., 2011), our results demonstrate that health is definitely of personal relevance for the majority of respondents in regard to all other attributes and motivations. The results show that the health factor is not discriminating among the choices of the three groups of respondents (i.e. the attributes that respondents link to the benefit of ‘healthier eating’ are similar across the three groups). The main difference, however, was that while vegetarians and meat reducers associated Quorn’s ‘meat free’ attribute to ‘healthier eating,’ meat eaters did not make this association as they consider meat to be a healthy food product and an important element of a healthy diet, an argument supported by Rothgerber (2013). Furthermore, although the ladder ‘security – healthier eating – low fat’ exists in the

HMV's of all three sub-groups, the link is strongest for the meat reducers, as more people made this association), indicating a strong cognitive relevance. Additionally, the security – healthier eating – low fat' was more common than other ladders within this group's HVM. This suggests that meat reducers are mainly driven by self-interest rather than altruistic or universalistic values and motivations; an argument also supported by the findings of De Backer and Hudders (2015), Forestell, Spaeth and Kane (2012) and others.

One argument that divides opinion in the existing literature is the influence of taste and texture on consumer preferences for meat substitute products. For example, some researchers argue that meat-like taste and texture is regarded as a positive attribute for meat substitute products (Elzerman et al., 2013; Hoek et al., 2011). On the contrary, others have reported that some consumers (particularly vegetarians) have developed negative perceptions of meat-like sensory characteristics and therefore avoid meat substitutes which remind them of meat (Rothgerber, 2015). In our study, most respondents, regardless of the group to which they belong, highlighted the importance of Quorn's 'taste and texture' and indicated that this attribute was related to a 'pleasant experience.' An interesting distinction between the different groups however is that although vegetarians and meat reducers considered the taste and texture of Quorn to be similar to meat, meat eaters found it to be rather different and therefore described it as 'unconventional.' These differences may be better explained if the values motivating these preferences are examined. For vegetarians the values of 'hedonism' (i.e. sensual gratification for oneself), 'conformity' (i.e. restraining actions likely to distress others and violate social expectations or norms) and 'achievement' (personal success through demonstrating competence) were identified. This indicates that vegetarians buy Quorn products partially because they like the taste and texture themselves (hedonic values) but more importantly, because they can prepare food for their friends and family which equates to their idea of 'a good meal' (conformity) while maintaining their vegetarian diet

(achievement). Although this finding may contradict those of earlier studies (e.g. Hoek et al., 2011) which suggest that vegetarian consumers avoid buying meat substitute products that remind them of meat, it is supported by the argument of Ruby and Heine (2012) who claim that, in some cases, the food choices of family and friends may hold greater predictive power over personal preferences. This is due to individuals exhibiting high levels of conformity and placing more value on satisfying and ‘fitting in’ with those close to them (such as friends or family members).

The values of hedonism and conformity were also identified in the discussions with meat reducers. Here, however, hedonism was more often reported as an underlying value driving preferences for a pleasant experience associated with meat-like meat substitutes and was complemented by the value of ‘tradition’ (i.e. demonstrating respect and commitment to cultural ideas and beliefs). Meat reducers appeared to be mainly driven by their desire for traditional, familiar recipes. Similar to benevolence, the value of conformity may also play a role in the behaviour of this group. Therefore our findings indicate that vegetarian consumers perceive a need to provide people to whom they are close to, with meat substitutes that appear more ‘meat-like,’ while meat reducers are driven more by their own taste/texture preferences and hedonic values.

Interestingly, meat eaters differ from the other groups as their preference for Quorn was motivated, besides hedonism, by the value of ‘stimulation’ as they reported a general interest in new flavours and trying new, unconventional foodstuff. This highlights a main point of difference between the three groups, despite the initial parity indicated in the levels of attributes and consequences. Meat reducers and vegetarians appear to be mostly interested in meat-like products, driven by their values of hedonism and tradition as well as hedonism, conformity and achievement, respectively. Conversely, meat eaters perceive Quorn products

as indeed tasty, but that taste is generally perceived to be unconventional and different to that with which they are familiar. This finding suggests that although traditional values in the literature are generally associated with meat eaters (e.g. De Backer & Hudders, 2015; Ruby, 2012), this may not be the case for all consumers in this group, as some may be interested in using new ingredients and trying new products. This could be considered an alternative approach to encouraging meat substitution for consumers not currently concerned about ethical or environmental issues.

Related to the values and consequences underlying preferences for taste and texture, the attributes of ‘versatility’ of Quorn as an ingredient in preparing tasty meals and its ‘availability’ in stores were also emphasised by respondents in all three groups. These attributes were linked to the consequences of ‘easiness to replace meat,’ ‘fit with existing lifestyle’ and a ‘pleasant eating experience.’ A similar concept, namely ‘easiness to prepare’ was also mentioned as a positive attribute for meat substitutes by Elzerman et al. (2013). These themes were mainly discussed by the respondents in terms of consumers’ easy access to Quorn (without the need for specialty stores), and the fact that it can be used to replace meat in popular recipes that satisfy not only the respondents but also their family and friends who may not be familiar with or interested in, meat-free meals.

Another point of disparity in the literature identified also by our research is the impact of ethics on consumer purchases. In line with extant literature (e.g. Elzerman et al., 2013; De Bakker & Dagevos, 2012), for vegetarian consumers, ‘animal welfare’ and ‘environmental friendliness’ were two of the most commonly reported motivating consequences, linked to Quorn’s ‘meat-free’ status and its ‘low carbon footprint,’ compared to meat products. Generally, vegetarians have expressed that strong universalistic values drive their behaviour. Universalistic values, however, were also identified in the meat reducing group, associated

with ‘animal welfare’ and ‘supporting UK businesses.’ This finding is particularly interesting, since some scholars have claimed that vegetarians are the only group influenced by concerns for animal and human welfare (De Backer & Hudders, 2015; Hoek et al., 2011). In our study, meat reducers’ Quorn purchases were also influenced by such concerns, although the number of respondents affected by ethical concerns was admittedly lower. Additionally, meat reducers were the only group to consider the origin of the product in order to support UK producers, indicating their concern for social sustainability and human welfare. This finding suggests that although vegetarians are heavily influenced by ethics, marketing strategies aiming at the universalistic values underlying consumer behaviour also may be effective in encouraging meat substitution by consumers belonging to other consumer groups. Furthermore, the country of origin of meat substitutes could be used as an additional differentiation point.

In terms of negative ladders (i.e. attributes, consequences and values that prevent consumers from buying Quorn products), cost was the main identified attribute. Meat eaters and meat reducers considered the price of Quorn products as relatively high in comparison to meat and other meat substitute products, a concern also reported by Elzerman et al. (2013) and Vanhonacher et al. (2013). This attribute was linked to a negative consequence of stress over the ‘food budget’ which was subsequently linked to the value of ‘security.’ On the other hand the opinions of vegetarians were divided regarding the cost of Quorn products. The majority considered Quorn’s prices as ‘reasonable’ and fair, and that Quorn is a value-for-money product given the benefits that it offers to consumers.

## 10. Conclusions

The results of this study provide interesting implications for the marketing of meat substitute products, as well as the development of food policies that encourage meat substitution as part of an agenda focussing on more sustainable and healthy diets.

Using Quorn as a case study, our results suggest that most consumers purchase meat substitutes due to their desire to eat healthily. At the same time however, they are not willing to renounce the pleasures of life and their way of living. The majority of consumers wanted healthy and tasty meat substitutes that are easy to prepare and ‘fit’ with their lifestyle.

Environmental and social sustainability and animal welfare are also desirable, however their impact is stronger in those who are already avoiding or reducing meat in their diets. These findings suggest that although vegetarian consumers may be more ethically driven, in order to further encourage meat substitution in meat eaters and meat reducers, there is a need to move beyond promoting the ethical benefits of meat substitutes and focus upon developing and marketing easy-to-use, widely-available products. Additionally, given the importance of availability to consumers, improving distribution of meat substitutes should be a priority.

Producers and food retailers should continue to focus upon reaching a wider audience through an increasing number of retail outlets.

As proven in the case of Quorn, developing new products with an emphasis on meat-like taste and texture that can easily replace meat in traditional and popular dishes may also be considered an effective way of increasing the demand for, and use of, meat substitute products. This, however, could prove to be a challenging task as consumers may express different opinions and preferences regarding the taste and texture, depending on their current relationship with meat products. Their purchases may also be influenced by the opinions of close others, such as family and friends. Furthermore, considering the moderate impact of

environmental concerns on consumer choices, our research indicates that, despite the current attention of policy makers and media, the environmental benefits of meat substitutes should be better communicated to the wider public, as their impact was limited to those who are already avoiding meat in their diets (vegetarians). Carbon footprint certification and labelling may be a starting point, however communication and education campaigns should be used to support labelling and emphasise the environmental sustainability benefits of replacing meat with meat substitutes, partially or otherwise.

The value level findings may be useful in devising new marketing and communication strategies. Security and hedonism are, unsurprisingly, the key values in this respect, supporting the significance of attributes associated with health and taste. Of note, however, are values such as universalism, conformity, benevolence and stimulation which also drive purchases of meat substitute products for specific consumer groups. Generally, vegetarians seem to have a more idealistic cognitive structure than the other groups of consumers, as they were mostly driven by ethical and environmental benefits and their strong universalistic values. Although universalistic values also influence the choices of meat reducers, meat reducers are relatively similar to meat eaters; as both consumer groups are highly motivated by self-interest, evidenced by the main values driving their choices (e.g. hedonism and security) which are more prevalent than the more altruistic and moral values of benevolence and universalism. Strategies and policies promoting meat substitutes as vegetarian products on the basis of animal welfare and environmental issues could result in increased demand for such products from vegetarians and some meat reducers. On the other hand, however, their effectiveness may be limited, especially in encouraging meat substitution in meat eaters and part of the meat reducing group which, in comparison to the other consumers, lacks transcendental values such as universalism. For these consumers, Quorn does not necessarily

represent a vegetarian product but a healthier, versatile meat substitute that they could easily include in their diets.

In terms of lifestyle and pleasant experience, meat reducers believe that meat substitutes provide an opportunity to prepare traditional meals which they enjoy. However, for meat eaters, values such as ‘stimulation’ indicate that they are more interested in trying new, less conventional products in their meals. Vegetarians, however, are driven by the values of achievement and conformity, and seek products that will not only please them but also those close to them, whilst simultaneously matching their vegetarian lifestyle. This may present a challenge for marketers who will need to promote meat substitute products in a way that will attract the large target audience of meat eaters without alienating the increasing target market of meat reducers and their existing vegetarian audience.

The information in this research could be useful for producers of meat substitutes, who could use the results of this case study to develop targeted communication campaigns using a combination of media to reach their target audience. For example, the effectiveness of online and social media in promoting an exciting and stimulating image for Quorn products has been highlighted by many respondents. Additionally, TV advertising and celebrity endorsement have been discussed as strategies to communicate the healthier (and not necessarily only-for-vegetarians) image of Quorn products to encourage product trial by meat eaters, who may have to deal with the reported issues of food neophobia and product unfamiliarity. Quorn’s use of online and offline media to communicate with consumers, providing recipes and ideas and generally portraying a more traditional (whilst simultaneously healthier) product image, has been discussed as a preferable approach to attract meat reducers and vegetarians.

This research has utilised a small sample to identify the attributes, consequences and values that motivate vegetarians, meat reducers and meat eaters to purchase products from a specific



meat substitute brand; Quorn. Despite the limited sample, this research can provide a foundation for future quantitative research to analyse more precisely and in more detail the ladders associated with meat substitute purchases. In addition, as quantitative research allows further analysis it would be possible to segment consumers according to their preferences and motivations or to identify the attributes with the most important effect on consumption. For example, future research could empirically measure the relationships between perceived benefits and underlying values, measure consumer preferences for meat substitute products and their various attributes, as well as identify segments of consumers based on these preferences.

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## Appendix 1

**Table 2 Respondent characteristics**

	<b>Gender</b>	<b>Age group</b>	<b>Meat consumption group</b>
<b>Group 1</b>			
Participant 1	Female	25-34	Meat eater
Participant 2	Male	45-54	Meat eater
Participant 3	Male	35-44	Vegetarian
Participant 4	Female	35-44	Vegetarian
Participant 5	Female	55-64	Meat reducer
Participant 6	Male	35-44	Vegetarian
Participant 7	Female	45-54	Meat reducer
Participant 8	Male	45-54	Meat reducer
<b>Group 2</b>			
Participant 9	Male	25-34	Vegetarian
Participant 10	Male	45-54	Vegetarian
Participant 11	Male	>65	Vegetarian
Participant 12	Male	45-54	Vegetarian
Participant 13	Female	25-34	Vegetarian
Participant 14	Female	25-34	Vegetarian
Participant 15	Male	25-34	Vegetarian
Participant 16	Male	45-54	Vegetarian
<b>Group 3</b>			
Participant 17	Male	35-44	Meat reducer
Participant 18	Male	25-34	Meat reducer
Participant 19	Female	25-34	Meat reducer
Participant 20	Female	45-54	Meat reducer
Participant 21	Male	55-64	Meat reducer
Participant 22	Male	55-64	Meat reducer
Participant 23	Male	45-54	Meat reducer
Participant 24	Female	25-34	Meat reducer
<b>Group 4</b>			
Participant 25	Female	18-24	Meat eater
Participant 26	Male	25-34	Meat eater
Participant 27	Female	35-44	Meat eater
Participant 28	Male	18-24	Meat eater
Participant 29	Female	18-24	Meat eater
Participant 30	Male	45-54	Meat eater
Participant 31	Female	45-54	Meat eater
Participant 32	Female	>65	Meat eater